



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,315	02/06/2004	Jac-Dong Yoon	0630-1953P	6483
2292 7590 10/03/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER EWALD, MARIA VERONICA	
			ART UNIT	PAPER NUMBER
			1722	
			NOTIFICATION DATE	DELIVERY MODE
			10/03/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

**Advisory Action  
Before the Filing of an Appeal Brief**

Application No.

10/772,315

Applicant(s)

YOON ET AL.

Examiner

Maria Veronica D. Ewald

Art Unit

1722

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 07 September 2007 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.  
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**NOTICE OF APPEAL**

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

**AMENDMENTS**

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ They raise the issue of new matter (see NOTE below);  
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
The status of the claim(s) is (or will be) as follows:  
Claim(s) allowed: \_\_\_\_\_.  
Claim(s) objected to: \_\_\_\_\_.  
Claim(s) rejected: \_\_\_\_\_.  
Claim(s) withdrawn from consideration: \_\_\_\_\_.

**AFFIDAVIT OR OTHER EVIDENCE**

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

**REQUEST FOR RECONSIDERATION/OTHER**

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:  
See attached response to arguments.  
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). \_\_\_\_\_  
13. ☐ Other: \_\_\_\_\_.

***Response to Arguments***

Applicant's arguments filed September 7, 2007 have been fully considered but they are not persuasive. With respect to independent claims 1, 10 and 12, Applicant has very specifically identified that the flow accelerating means is provided on the mold walls for reducing a flow resistance between the inner walls and the fluid so as to accelerate the fluid flow. Furthermore, Applicant points out the deficiencies in each of the prior art references of Hendry, Bodkins, et al., Yotsutsuji, et al. and Kataoka, et al. such that each reference *lacks the function or does not teach the function of the mold coating in each of the respective references such that the mold coating accelerates the fluid flow*. Overall, Applicant has not argued *any deficiency in the prior art structures only that the functions are not inherently or explicitly disclosed in each reference*. The limitation in independent claims 1, 10 and 12 stating "...for increasing insulation of the fluid and reducing a flow resistance between the inner walls and the fluid so as to accelerate flow of the fluid..." to which Applicant argues is lacking in the prior art references is a recitation of intended use and thus, is not accorded weight. Such limitations merely describe the function of the apparatus without providing any further structural component, which distinguishes Applicant's invention from the prior art. Per MPEP 2114, while features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997). In addition, a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does

Art Unit: 1722

not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987). *With respect to the structure of Applicant's injection mold*, the apparatus is comprised of a fixed mold, a movable mold and a coating on the inner walls of the mold, such that the coating is a polymer (Teflon or polytetrafluoroethylene), a metal, a ceramic coating, or a lubricant (graphite, molybdenum and disulfide). Each of these structures is taught by the prior art references.

Furthermore, Applicant's arguments with respect to the features of the mold coating and the results the coating produces such that the fluid flow is accelerated may be a new use for a known structure. However, per MPEP 2112, “[T]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer.” *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). Thus the claiming of a new use, new function or unknown property, which is inherently present in the prior art, does not necessarily make the claim patentable. *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977). *In re Crish*, 393 F.3d 1253, 1258, 73 USPQ2d 1364, 1368 (Fed. Cir. 2004).

With respect to Applicant's arguments regarding inherency, “[T]he fact that a characteristic is a necessary feature or result of a prior-art embodiment (that is itself sufficiently described and enabled) is enough for inherent anticipation, even if that fact

was unknown at the time of the prior invention.”); *Abbott Labs v. Geneva Pharms., Inc.*, 182 F.3d 1315, 1319, 51 USPQ2d 1307, 1310 (Fed.Cir.1999).

Turning to Applicant's arguments with respect to each of the references, Applicant argues that Bodkins, et al. (U.S. 3,544,518) does not teach that the insulating material (item 3 and 3' – figure 1) accelerates the fluid flow, but merely insulates the polymer (or fluid) to prevent the surface of the polymer from cooling too rapidly. Though the insulating material is not disclosed as explicitly accelerating the fluid flow, *the insulating material is the same material as that in Applicant's apparatus (polyethylene)* and thus, inherently has the properties of Applicant's coating or flow accelerating means. Furthermore, the insulating material of Bodkins, et al. is identified as having a lower thermal conductivity while the metal mold has a higher thermal conductivity. Inherently, the insulating material, with more resistance to heat transfer, maintains the polymer in its more flowable state, such that its heat does not dissipate and therefore, it remains in its more flowable state (i.e., less viscous). Applicant's remaining arguments with respect to the fact that the smoother surface of the finished product of Bodkins, et al. may be attributed to other factors is speculation without identifying any further structural component that is lacking within the apparatus of Bodkins, et al. as compared to that of Applicant's apparatus.

Secondly, Applicant argues that Yotsutsuji, et al. (U.S. 4,225,109) does not teach that the insulating layer is a flow accelerating means and merely insulates the resin from the metal mold. Though this may be true, Applicant is arguing the function or intended use of the coating without identifying any structural deficiency within the apparatus of

Yotsutsuji, et al. The insulating layer of Yotsutsuji, et al. is the same material as that used in Applicant's apparatus (a metal, a solid lubricant, a ceramic coating, a polymer coating) and thus, inherently has the properties of Applicant's coating or flow accelerating means. Furthermore, even if it does allow the metal layer (item 12 – figure 1) to heat up rapidly due to the molten polymer being injected, the heat-insulating layer has a lower thermal conductivity than the metal layer and thus, maintains the polymer in its molten and more flowable or less viscous state.

Turning to the reference of Hendry (U.S. 4,201,742), Applicant again argues that the Teflon coating of Hendry acts as a thermo-barrier but does not accelerate the flow of the fluid. Though this may be true, Applicant is arguing the function or intended use of the coating without identifying any structural deficiency within the apparatus of Hendry. The Teflon coating of Hendry is the same material as that used in Applicant's apparatus (polytetrafluoroethylene) and thus, inherently has the properties of Applicant's coating or flow accelerating means. Because Teflon has a lower thermal conductivity than metal (used for the mold), it insulates the molten plastic, prevents dissipation of heat from the molten plastic, and thus, allows it to remain in its more flowable state.

Last of all, Applicant argues that the reference of Kataoka, et al. (U.S. 5,362,226) does not teach that the insulating layer is a flow accelerating means. Again, though Kataoka, et al. does not teach that the layer explicitly accelerates the fluid flow, the insulating material is the same as that used in Applicant's apparatus (a polymer, as claimed). Because the insulating material (polyamide) as taught by Kataoka, et al. is also a lubricant known to have excellent slip or parting properties, it is not only the same

Art Unit: 1722

material as that used in Applicant's apparatus, but also has *inherently the same properties*.

In summary, Applicant's arguments merely identify the prior art coatings or layers as deficient in their function or performance in accelerating the fluid flow, but do not identify any deficiency in the structural components of the prior art apparatus. Furthermore, Applicant's argument that the prior art references would have disclosed the coatings or layers as a flow accelerating means as pertaining to their function, is merely pointing out a potentially new property and does not render the apparatus novel over the prior art cited. *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342,1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). See also *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977). *In re Crish*, 393 F.3d 1253, 1258, 73 USPQ2d 1364,1368 (Fed. Cir. 2004).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maria Veronica D. Ewald whose telephone number is 571-272-8519. The examiner can normally be reached on M-F, 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1722

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MVE

  
YOGENDRA N. GUPTA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700